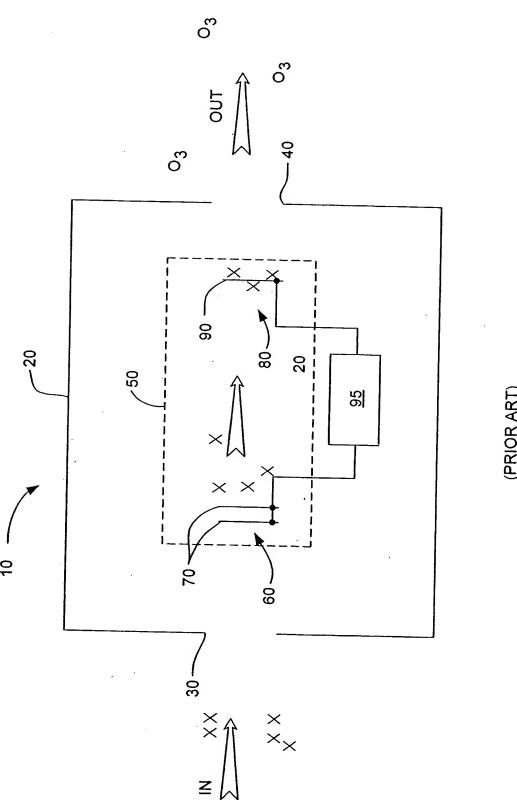
Title: Electro-Kinetic Air Transporter and Conditioner Device with Enhanced Arching Detection and Suppression Features

Docket No.: SHPR-01361USB Appl. No.: To be Assigned Confirm No.: To be Assigned

Filed: Herewith

Inventor(s): Taylor, et al. Attorney: J. Kurin Phone: (415) 362-3800

Express Mail No: EV 073802201 US Sheet 1 of 13



(PRIOR ART)

Title: Electro-Kinetic Air Transporter and Conditioner Device with Enhanced Arching Detection and Suppression Features

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Express Mail No: EV 073802201 US

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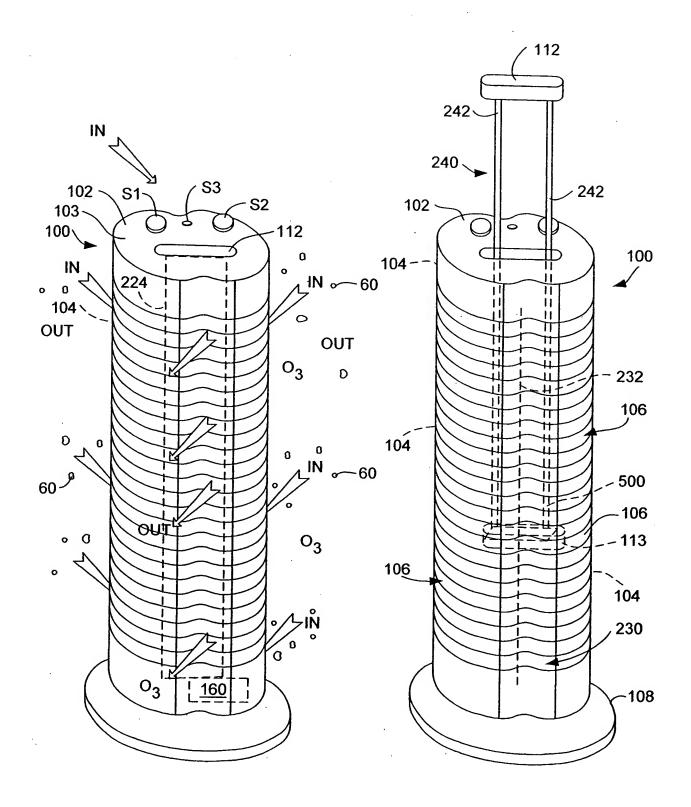
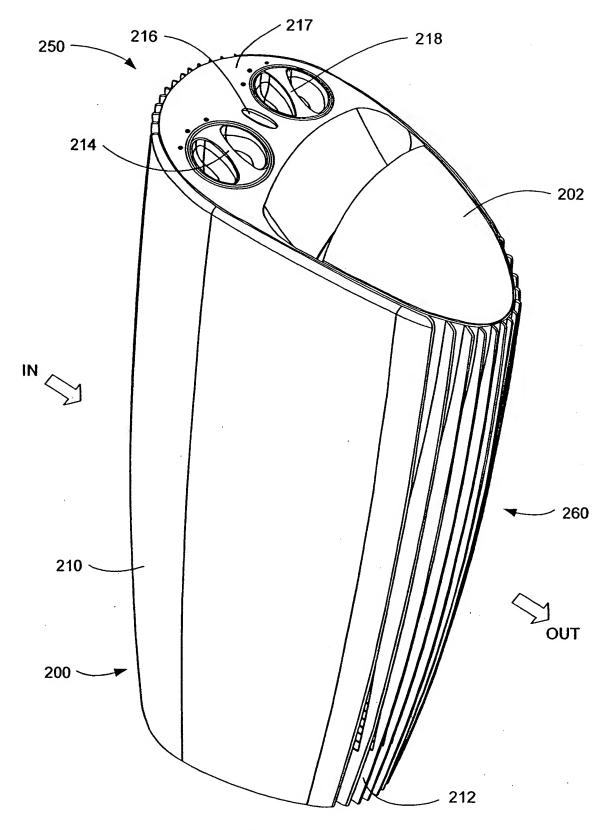


FIG. - 2A

FIG. - 2B



## FIG. - 3A

Title: Electro-Kinetic Air Transporter and Conditioner Device with Enhanced \( \) Arching Detection and Suppression Features

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Inventor(s): Taylor, et al. Attorney: J. Kurin Phone: (415) 362-3800 Express Mail No: EV 073802201 US Sheet 3 of 13

Arching Detection and Suppression Features Inventor(s): Taylor, et al. Attorney: J. Kurin Phone: (415) 362-3800 Express Mail No: EV 073802201 US Docket No.: SHPR-01361USB Appl. No.: To be Assigned Confirm No.: To be Assigned Filed: Herewith Sheet 4 of 13 Ð FIG. - 3B

Title: Electro-Kinetic Air Transporter and Conditioner Device with Enhanced

Title: Electro-Kinetic Air Transporter and Conditioner Device with Ennanced Arching Detection and Suppression Features

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Inventor(s): Taylor, et al. Attorney: J. Kurin

Phone: (415) 362-3800 Express Mail No: EV 073802201 US

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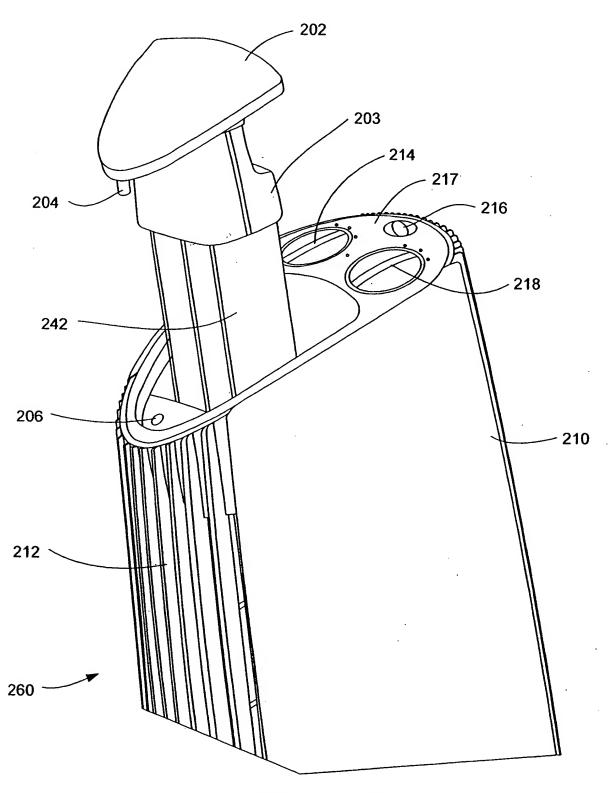


FIG. - 3C

Title: Electro-Kinetic Air Transporter and Conditioner Device with Enhanced Arching Detection and Suppression Features

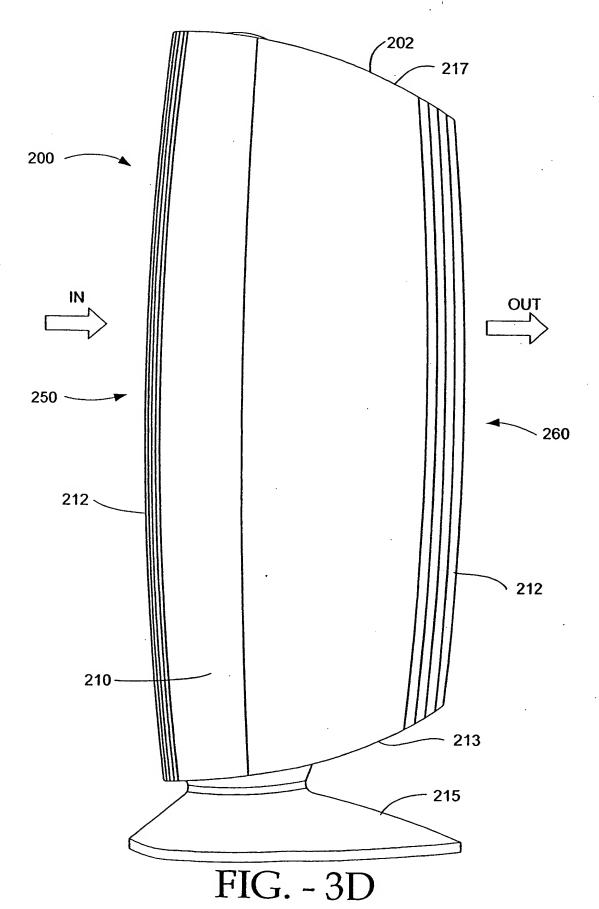
Docket No.: SHPR-01361USB Appl. No.: To be Assigned Confirm No.: To be Assigned

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Inventor(s): Taylor, et al. Attorney: J. Kurin Phone: (415) 362-3800

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Title: Electro-Kinetic Air Transporter and Conditioner Device with Ennanced Arching Detection and Suppression Features

Docket No.: SHPR-01361USB Inventor(s): Taylor, et al.

Appl. No.: To be Assigned Attorney: J. Kurin

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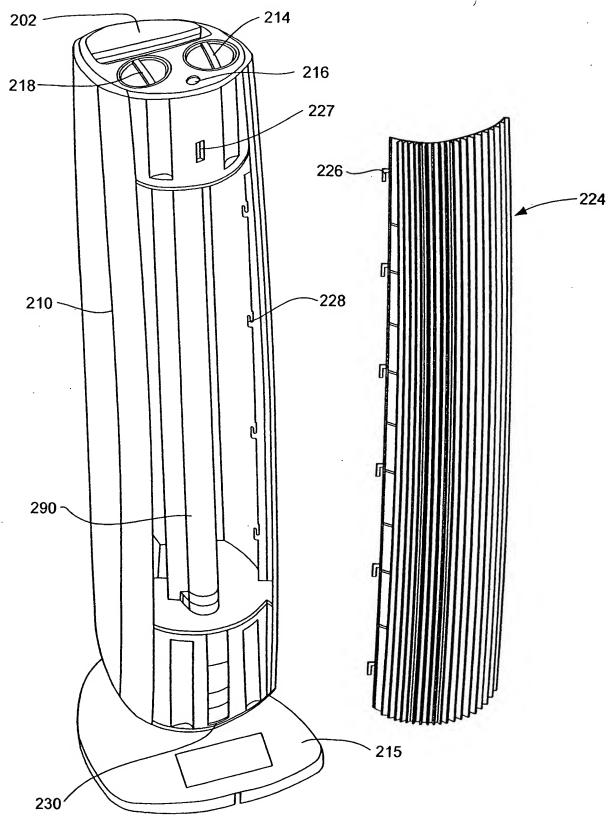


FIG. - 3E

Title: Electro-Kinetic Air Transporter and Conditioner Device with Ennanced Arching Detection and Suppression Features

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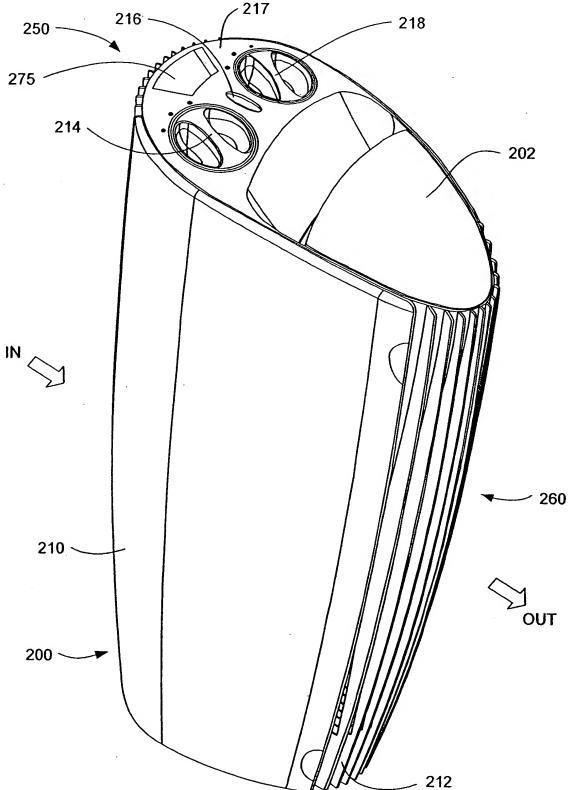


FIG. - 4

Title. Electro-Kinetic Air Transporter and Conditioner Device with Enhanced Arching Detection and Suppression Features Docket No.: SHPR-01361USB Appl. No.: To be Assigned Confirm No.: To be Assigned Filed: Herewith Inventor(s): Taylor, et al. Attorney: J. Kurin Phone: (415) 362-3800 Express Mail No: EV 073802201 US Sheet 9 of 13 **ਊ** OUT В -240 **X**1 

250 () IN FIG. - 5A

Title: Electro-Kinetic Air Transporter and Conditioner Device with Enhanced Arching Detection and Suppression Features Docket No.: SHPR-01361USB Inventor(s): Taylor, et al. Appl. No.: To be Assigned Confirm No.: To be Assigned Attorney: J. Kurin Phone: (415) 362-3800 Express Mail No: EV 073802201 US Sheet 10 of 13 Filed: Herewith 260 212 B В 244 240 242 246 220 210 - 232 232 211 230 274b 280 280 272 280 **→** 280 290 280≺ 270 212

FIG. - 5B

Title: Electro-Kinetic Air Transporter and Conditioner Device with Ennanced Arching Detection and Suppression Features

Docket No.: SHPR-01361USB Appl. No.: To be Assigned

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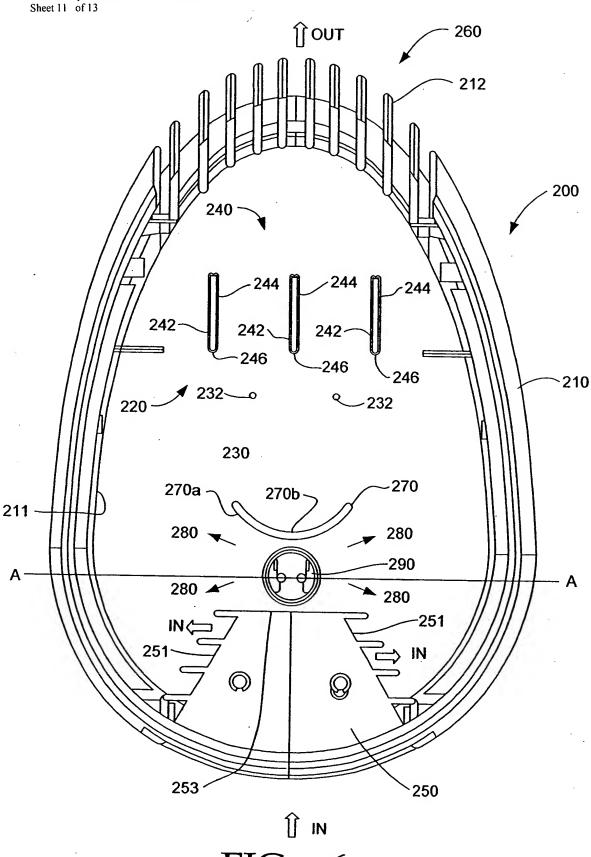


FIG. - 6

Confirm No.: To be Assigned Phone: (415) 362-3800 Filed: Herewith Express Mail No: EV 073802201 US Sheet 12 of 13 **GERMICIDAL LAMP** 218-218 290 110V-EMI **ELECTRONIC** AC **FILTERS BALAST** 110 112 ~ ≈ 160 Vdc DC **POWER** ≈12 Vdc **SUPPLY** 114 170 116 214 LO 3||E **VOLTAGE AC VOLTAGE DOUBLER** MED SENSE SIGNAL h HI <u>118</u> 230 126 LOW VOLTAGE MCU **PULSES BOOST** 7/7 **SIGNAL** 240

ARC SENSING SIGNAL

130

**INDICATOR** 

LIGHT 219 Title. Electro-Kinetic Air Transporter and Conditioner Device with Enhanced

Inventor(s): Taylor, et al.

Attorney: J. Kurin

Arching Detection and Suppression Features

Docket No.: SHPR-01361USB

Appl. No.: To be Assigned

FIG. - 7

Attorney: J. Kurin Confirm No.: To be Assigned Phone: (415) 362-3800 Filed: Herewith Express Mail No: EV 073802201 US Sheet 13 of 13 802 **START** SET ARCING THRESHOLD (A TH) 804 **BASED ON AIRFLOW SETTING** (e.g. HI, MED or LO) INITIALIZE ARC COUNT(AC) 806 i.e. AC = 0INITIALIZE SAMPLE COUNT (SC) 807 i.e., SC = 0PERIODICALLY SAMPLE CURRENT & 808 **PRODUCE A** RUNNING AVG. CURRENT VALUE (ACV) NO 822 810 HAS ACV NOT EXCEEDED A\_TH NO YES  $ACV \ge A_TH$ ? FOR PREDETERMINED TIME (e.g. 60 sec.)? YES INCREMENT SAMPLE COUNT 812 i.e.,  $SC = SC + \overline{1}$ NO 814  $SC = SC_TH (e.g. 30)$ ? YES TEMPORARILY SHUT DOWN UNIT 816 (e.g., for 80 sec.) INCREMENT ARC\_COUNT 818 i.e., AC = AC + 1820 NO  $AC = AC_TH (e.g., 3)$ ? YES 824 SHUT DOWN UNIT (NO SELF RESTART) FIG. - 8

Litle. Electro-Kinetic Air Transporter and Conditioner Device with Enhanced

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Arching Detection and Suppression Features

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